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University Examinations 2024/2025

FIRST YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF MASTERS IN PUBLIC HEALTH AND EPIDEMIOLOGY

MPH 5112/HPE 7113: EPIDEMIOLOGY I/ADVANCED EPIDEMIOLOGY

DATE: JANUARY 2025 **TIME: 3 HOURS**

INSTRUCTIONS:
Answer Question one and any other three Questions

QUESTION ONE (30 MARKS)

a) Discuss two Analytical Study Designs contextualizing their application. (8 Marks)
b) Describe the following types of sampling methods.
   i. Multistage sampling Principle
   ii. Stratified sampling
   iii. Cluster sampling
   iv. Simple random sampling (8 Marks)
c) Explain the concept of randomization. Why is randomization important in clinical trials? (6 Marks)
d) "Using relevant examples" Describe the modes of infectious disease transmission. (8 Marks)

QUESTION TWO (10 MARKS)

Discuss the following biases that can occur in case-control studies, give an example of each, and describe what you can do to control them:

   i. Selection bias
   ii. Information bias
   iii. Confounding
   iv. Misclassification (10 Marks)

QUESTION THREE (10MARKS)

Discuss epidemiologic Triad in relation to disease transmission. (10 Marks)

QUESTION FOUR (10 MARKS)

a) State Koch's Postulates and how they actualized in view of public health work
b) Discuss the different measures of association used in epidemiological studies (10 Marks)

QUESTION FIVE (10 MARKS)

In a study examining the relationship between oral contraceptives and bacterial infection one would follow women who use oral contraceptive (OC) and those who do not use contraceptives over a period. If in follow-up period of 3 years, 70 of 500 individuals who were using Oral contraceptives got bacterial infection, while 150 of 3000 individuals who did not use OC acquired bacterial infection answer the following;

a) The study design used in the above study:
b) Identify and calculate the appropriate measure of association for this study:
c) Interpret the results. (10 Marks)